

REMARKS/ARGUMENTS

Claims 1, 6-30, 40, and 42-50 are pending in this application. By this Amendment, Claims 1, 7, 40 and 46 are amended. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Claims 1, 40 and 46 are amended to clarify that the base member is moulded as a single component (e.g., injection moulded in a two-stage injection moulding process), as supported in the originally-filed specification, for example, at Page 15, paragraph 105. Claims 7 and 46 are amended to clarify that the opening in the outer phase or outer flange refers to the labial face or flange, that the inner face of the base member is the inner lingual face, and that the front region is the front interior region, for clarity. These amendments are supported by the originally-filed application, for example, at Page 16, paragraph 108 and Figs. 1, 6 and 13. Accordingly, no new matter is added by the amendments.

FORMAL MATTERS

Claims 1 and 6-8 stand objected to because of informalities. By this response, Claim 1 is amended for clarity to obviate the objection. Withdrawal of the rejection is respectfully requested.

35 USC §102 REJECTION

Claims 1, 10, 13, 14, 17, 19-21, 25-29, 40 & 42-45 stand rejected under 35 U.S.C. §102(e) over Kittelsen et al. (U.S. Patent No. 6,691,710). This rejection is respectfully traversed, for at least the reasons set forth below.

The Examiner asserts that Kittelsen discloses a base member having four separable components (framework 86, reverse bite plate fulcrum 106, traction pads 114, encapsulating material 170), and a teeth engaging element 270. The Examiner further asserts that Kittelsen discloses a base member having compressible channels that absorb shock because index openings 94 in the base element framework are composed of a flexible material that functions to absorb impact shock, and that when a user bites down on the oral application, the flexible material of the openings 94 must inherently absorb shock transmitted from the teeth of the user to the openings 94 of the base. The Examiner's assertions are respectfully traversed.

As can best be seen in Figs. 5, 7 and 10, the four layers or components are made separately and fit together to form the mouthpiece 70. In contradistinction, the claimed base member is moulded as a single component. In fact, in the exemplary embodiment disclosed in the application, the base member is injection moulded, not fit together as disclosed in Kittelsen. Therefore, Kittelsen does not disclose a base member moulded as a single component as recited in the independent Claims 1, 40 and 46.

In addition, the index openings 94 of Kittelsen are not compressible shock absorption channels as asserted by the Examiner. As can be seen in Fig. 9 of Kittelsen, the index openings 94 are filled by the reverse bite plate wedges 106 and 108. These reverse wedges are very hard and durable, and are in fact fulcrums that cannot be penetrated by the teeth under maximum biting pressure in order to maintain displacement of the condyle and proper positioning of the lower jaw 42. See Column 4, lines 56-59 and Column 5, lines 20-30. Therefore, Kittelsen also does not disclose the base member further including one or more compressible shock absorption

channels defined in the base member to absorb impact shock, as recited in the independent claims.

As discussed above, Kittelsen does not disclose a base member moulded as a single component and including compressible shock absorption channels as recited in independent Claims 1 and 40. Claims 10, 13, 14, 17, 19-21, 25-29 and 42-45 each depend from one of the independent claims and are also believed to be novel over Kittelsen. Withdrawal of the rejection of the claims under 35 U.S.C. §102(e) is respectfully requested.

35 U.S.C. §103 REJECTIONS

Kittelsen et al. and Kittelsen et al.

Claims 6-8, 15, 16 and 30 stand rejected under 35 U. S. C. 103(a) over Kittelsen, et al. (U.S. Patent No. 6,691,710, hereinafter also referred to as “Kittelsen ‘710”) in view of Kittelsen, et al. (U.S. Patent No. 5,152,301, hereinafter also referred to as “Kittelsen ‘301”). This rejection is respectfully traversed, for at least the reasons set forth below.

The Examiner admits that Kittelsen ‘710 fails to disclose the compressible shock absorption channels comprising open air channels defined in the base member and extending from an outer face of the base member to an inner face of the base member, and recites that Kittelsen ‘301 teaches the missing features. However, assuming, *en arguendo*, that the references could be combined, the combination would not have resulted in the claimed features. In particular, the combination of references would not have resulted in a base member moulded as a single component as recited in Claim 1 and discussed above, as the teachings of Kittelsen ‘301 does not suggest how one of ordinary skill in the art would have made the 4

layer/component mouthpiece 70 of Kittelsen '710 as a single component moulding. In addition, Kittelsen '301 does not teach compressible shock absorption channels extending from an opening in an outer labial face of the base member through the body member thereof to an opening in an inner lingual face of the base member as recited in Claim 7.

As can best be seen in Figs. 5 and 6, Kittelsen '301 teaches a thermal plastic mouthguard having occlusal impact chambers 104 elongated and formed within occlusal posterior pads 102 formed upon the lower side 66 of the U-shaped base 62. The chambers 104 extend to openings at anterior and posterior ends of the occlusal posterior pads 102. That is, the channels do not extend from an outer labial face of the mouthguard to an inner lingual face as recited in the claims. Moreover, a person of ordinary skill in the art would not have been motivated to combine this teaching of a chamber 104 into the mouthguard of Kittelsen '710, because such openings in the mouthguard 70 would not provide access to a cushioning chamber. That is, such openings would only provide access to the fulcrums 106 and 108, which are made very hard and durable. In other words, combining the teachings of Kittelsen '301 into the mouthpiece of Kittelsen '710 would render the mouthpiece of Kittelsen'710 unsatisfactory for its intended purpose.

A stated objective and advantage of Kittelsen '710 is that the reverse bite place wedge is of a hard and very durable material that is a fulcrum unpenetratable by teeth thereby in use lowering the condyle from the temporomandibular joint to place the lower jaw in an optimal condition preventing impingement upon the nerves and arteries as well as spacing the upper and lower teeth apart. Providing air or cushioned chambers 104 in or under the reverse wedges 106,

108 of Kittelsen '710 would soften the fulcrum and allow unwanted cushioning that permits movement of the lower jaw out of its optimum condition, rendering it unsatisfactory for its intended purpose. Further, as can best be seen in Fig. 5 of Kittelsen '710, it may be seen that modifying the occlusal pad plates 92 so that its index openings 94 extend from an opening in an outer labial face through the body to an opening in the inner lingual face would severely compromise the strength and function of the framework 86 rendering it incapable of serving its disclosed function of maintaining the shape of the mouthguard 70. Accordingly, a person having ordinary skill in the art again would not have been motivated to combine the references to arrive at the claimed subject matter.

In light of the above, Applicant submits that Claims 6-8, 15 and 16 are patentable over the cited references. Withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

Kittelsen '710, Kittelsen '301 and Adell

Claims 9, 12 and 46-50 stand rejected over Kittelsen '710, Kittelsen '301 and further in view of Adell (U.S. Patent No. 4,955,393). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that the Kittelsen patents fail to teach at least one frontal open channel arranged in a front section of the base member and asserts that it would have been obvious to further modify Kittelsen '710 as modified by Kittelsen '301 with the frontal open channel taught in Adell to provide a shock absorbing means. However, a person of ordinary skill in the art would not have been motivated to combine Kittelsen '710 with the teachings of Adell

for substantially the same reasons as discussed above regarding the teachings of Kittelsen '301. In particular, modifying the index openings 94 of Kittelsen '710 to extend from an outer face or flange to the inner face or flange would prevent assembly of the occlusal pad plates 92 and render the framework 86 inoperable for its intended purpose of maintaining the shape of the heated mouthguard 70. See Column 4, lines 52-54. Moreover, as can best be seen in Figs. 4, 5, 7 and 9, open channels that extend from the outer to the inner face or flange could not be formed in the reverse bite place fulcrums 106, 108 as such channels would weaken the fulcrum rendering it substantially weaker and less useful as a hard, durable wedge that cannot be penetrated by teeth under maximum pressure to separate the jaws and place the lower jaw in a position preventing impingement upon the adjacent nerves and arteries.

Accordingly, a person of ordinary skill the art would not have been motivated to combine the teachings of Kittelsen '301 or Adell to modify the device of Kittelsen '710 to arrive at the features recited in Claims 1 and 46. Claims 9, 12 and 47-50 depend from independent Claims 1 and 46, and are also believed to be allowable over the references as discussed above. Withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

Kittelsen '710

Claims 11, 18 and 22-24 stand rejected under 35 U.S.C. §103(a) over Kittelsen '710. This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Kittelsen fails to disclose a base member having a 10-20mm length, 1mm-3mm thick teeth engaging elements, or specific ranges of weight or material as recited in the rejected claims and asserts that it would have been obvious to modify Kittelsen to

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arrive at the claimed features. However, as discussed above, Kittelsen does not disclose a base member moulded as a single component and including one or more compressible shock absorption channels defined in the base member to absorb impact shock as recited in Claim 1 from which Claims 11, 18 and 22-24 depend. Further, Applicant respectfully submits that with the knowledge of a person having ordinary skill in the art, Kittelsen also does not teach these missing features. Therefore, Applicant submits that Claim 1 and its dependent Claims 11, 18 and 22-24 are also non-obvious in view of Kittelsen '710. Withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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